

**Notice of Allowability**

Application No.

08/259,321

Applicant(s)

REZAIE ET AL.

Examiner

Art Unit

Karen A. Canella

1643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to Applicants acceptance on August 18 of the Examiner's Amendment.
2.  The allowed claim(s) is/are 1, 2, 3, 5, 7, 8, 14, 15, 17-28, renumbered as 1, 2, 7, 6, 4, 5, 12, 13, 17, 14, 15, 3, 16, 11, 9, 10, 8, 18, 19, 20.
3.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All
  - b)  Some\*
  - c)  None of the:
  1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review ( PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 9/19/1995
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_.

  
KAREN A. CANELLA PH.D  
PRIMARY EXAMINER

**EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Steven Highlander on August 18, 2006.

The application has been amended as follows:

Claim 1 has been replaced with the following:

1. A recombinant  $\text{Ca}^{2+}$  dependent monoclonal antibody or antibody fragment including a heavy chain and a light chain, wherein the antibody or antibody fragment comprise the hypervariable regions of the monoclonal antibody produced by the hybridoma deposited with the American Type Culture Collection as ATCC No. HB 9892, where the recombinant monoclonal antibody or antibody fragment bind an epitope in the activation peptide region of the heavy chain of Protein C defined by EDQVDPRLIDGK (Sequence ID No. 1) and calcium ions, where the antibody and antibody fragment inhibit Protein C activation by thrombin-thrombomodulin, and wherein the antibody and antibody fragment are expressed in bacterial or insect cells.

Claim 3 has been replaced with the following:

3. A recombinant  $\text{Ca}^{2+}$  dependent monoclonal antibody or antibody fragment including a heavy chain and a light chain, wherein the antibody or antibody fragment comprise the hypervariable regions of the monoclonal antibody produced by the hybridoma deposited with the American Type Culture Collection as ATCC No. HB 9892, where the recombinant monoclonal antibody or antibody fragment bind an epitope in the activation peptide region of the heavy chain of Protein C defined by EDQVDPRLIDGK (Sequence No. 1) and calcium ions, where the antibody and antibody fragment inhibit Protein C activation by thrombin-thrombomodulin, and wherein the antibody and antibody fragment are humanized.

Claim 8 has been replaced with the following:

8. The recombinant antibody of claim 1 immobilized to a substrate which does not interfere with the binding of said antibody to Protein C in combination with calcium ions,

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wherein the immobilized antibody is suitable for purification of Protein C from a biological fluid.

Claim 17 has been replaced with the following:

17. A method of making a recombinant humanized  $\text{Ca}^{2+}$  dependent monoclonal antibody which binds an epitope in the activation peptide region of the heavy chain of Protein C defined by EDQVDPRLIDGK (Sequence No. 1) and calcium ions, where the antibody inhibits Protein C activation by thrombin-thrombomodulin, by expressing nucleotide molecules encoding the hypervariable region of the heavy and light chains of the monoclonal antibody expressed by the hybridoma deposited with the American Type Culture Collection as ATCC No. HB 9892 in bacteria or insect cells.

Claims 2, 5, 7 and 15 have been amended as follows:

---recombinant—has been inserted immediately before “antibody”.

Claim 18 has been replaced with the following:

18. The method of claim 14 further comprising directly binding a detectable label to the recombinant antibody.

Claim 19 has been replaced with the following:

19. The method of claim 14 further comprising immobilizing the recombinant antibody to a substrate which does not interfere with the binding of said antibody to Protein C in combination with calcium ions, wherein the immobilized antibody is suitable for purification of Protein C from a biological fluid..

Claims 22-28 have been added:

22. A composition comprising the recombinant humanized antibody of claim 3 in combination with a pharmaceutically acceptable carrier for administration to a patient.

23. The recombinant humanized antibody of claim 3 having a detectable label directly bound to the antibody.

24. The recombinant humanized antibody of claim 3 immobilized to a substrate which does not interfere with the binding of the antibody to Protein C in combination with calcium ions, wherein the immobilized antibody is suitable for purification of Protein C.

25. The recombinant humanized antibody of claim 3 coupled thereto a peptide sequence.

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26. The method of claim 17 further comprising directly binding a detectable label to the recombinant humanized antibody.

27. The method of claim 17 further comprising immobilizing the recombinant humanized antibody to a substrate which does not interfere with the binding of the antibody to Protein C in combination with calcium ions, wherein the immobilized antibody is suitable for purification of protein C from biological fluid.

28. The method of claim 17 wherein the nucleotide sequence encoding the recombinant humanized antibody is ligated to a sequence encoding a peptide and the ligated nucleotide sequence is expressed in an expression system.

The following is an examiner's statement of reasons for allowance: On April 30, 2006, The Board of Patent Appeals and Interferences reversed the examiners rejection of the instant claims under 37 U.S.C. 103(a) as being obvious over the prior art as far as the claims read on the instant humanized antibody and a method of making said antibody. In the same decision, it was recommended that the '253 patent which was used as part of the obviousness rejection, be used as an anticipatory rejection as far as the claims read on an antibody or an antibody fragment expressed in insect cells. It is noted that the '253 patent was part of applicants priority claim. Upon review of the prosecution history, it was further noted that the examiner failed to give an earlier effective filing date to the instant claims because of the incorporation of the limitations of expressed in insect cells or humanized (Final Office action, March 31, 1999, page 3, section 7). After reconsideration in light of the opinion of the Board (pages 11-12), it is concluded that the '253 application provides adequate support for the limitation "expressed in insect cells".

The instant Examiner's Amendment has divided the claims between a humanized antibody and a recombinant antibody expressed in bacterial or insect cells, wherein claims drawn to the humanized antibody and a method of making said humanized antibody are given the effective priority date of June 10, 1994 in agreement with the Office action of March 31, 1999, and wherein claims drawn to a method of making a recombinant antibody which is expressed in bacterial cells or insect cells is given benefit of the earliest effective filing date of December 30, 1988. Therefore claims drawn to an antibody expressed in insect cells cannot be anticipated by the '523 patent because said patent is part of the priority chain.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karen A. Canella whose telephone number is (571)272-0828. The examiner can normally be reached on 10-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Helms can be reached on (571)272-0832. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Karen A. Canella, Ph.D.

9/1/2006

  
KAREN A. CANELLA, PH.D.  
PRIMARY EXAMINER